Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT

For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **Tintina Montana Inc.**
   17 E Main St.
   White Sulphur Springs, MT 59645

2. Type of action**: Application for Beneficial Water Use Permit No. 41J 30116562**

3. Water source name: **Groundwater**

4. Location affected by project: **Sections 1, 2, 11, 12, and 13 Twp 12N Rge 5E; Sections 3, 4, 5, 6, 10, 11, 12, 13, 18, 19, 20, 21, 22, 24, 25, 26, 27, 35, and 36 Twp 12N Rge 6E; Sections 18, 19, 30, and 31 Twp 12N Rge 7E, all in Meagher Co**

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

   Applicant proposes to appropriate groundwater from the mine workings developed for the Black Butte Copper project. The mine workings will range from 460 to 1,640 feet below ground surface and groundwater will be pumped through the mine portal, which will be considered the point of diversion legal description for the project. The source aquifer is the Newland Formation of the Belt Supergroup.

   Applicant estimates up to 807 AF of water will be removed to dewater the mine workings annually, however, the proposed beneficial use for industrial purposes associated with the copper mine is a maximum flow rate of 1.11 CFS (500 gallons per minute (GPM)) and volume up to 350 AF per year. Seven percent of the water beneficially used for the industrial purpose along with the water removed from the mine for dewatering and not beneficially used for industrial purposes will be treated and injected into the ground through an underground infiltration gallery. Applicant says they will use the maximum flow rate to fill the Process Water Pond (PWP), however annual use for the mine is estimated at an average rate of 217 GPM. Most of the industrial water use will be used for the milling process and tailing paste plant, along with smaller uses like dust suppression and equipment washing. The expected life of the mine is 16 years, while the completion period to utilize the annual volume of water requested for the mine is anticipated to be achieved within 6 years.

   This Environmental Assessment (EA) considers the potential impacts related to the Montana Department of Natural Resources and Conservation (DNRC) proposed action of granting Beneficial Water Use Permit No. 41J 30116562. The Montana

Department of Environmental Quality (DEQ) has prepared an Environmental Impact Statement (EIS) for the mine operating permit associated with the Black Butte Copper Project. This EA incorporates by reference relevant sections of DEQ's EIS.

6. Agencies consulted during preparation of the Environmental Assessment: (include agencies with overlapping jurisdiction)

DEQ – Black Butte Copper Project EIS
DEQ Website – Clean Water Act Information Center
Montana Fish, Wildlife & Parks (DFWP) Website – Dewatered Streams
MT National Heritage Program Website - Species of Concern
United States Department of Interior (USDI) Fish & Wildlife Service Website - Endangered and Threatened Species
USDI Fish & Wildlife Service – Wetlands Online Mapper
United States Department of Agriculture (USDA) Natural Resources Conservation Service – Web Soil Survey

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: **No Significant Impact.**

The source of water associated with this permit is groundwater from mine workings accessing the Newland Formation in Meagher County. Groundwater sources are not assessed for dewatering by the DFWP, however one of the surface water sources modeled by the Applicant to be impacted by the mine's industrial groundwater use, Sheep Creek, is identified as periodically dewatered on the DFWP website. Sheep Creek is listed as periodically dewatered from river mile 26.75 to its mouth. DFWP holds a year-round instream flow reservation for the fishery of 35 CFS. Coon and Black Butte Creeks are the other two surface water sources modeled to experience depletions from the proposed groundwater appropriation, however they are not listed as dewatered sources on the DFWP website.

The Applicant's plan to avoid adverse effect to prior appropriators from the exercise of this permit is to mitigate all consumed water beneficially used by the mine by both purchasing water marketed from existing water rights and storing water between May 1 and July 31, during times there are high spring flows available for appropriation in Sheep Creek. The stored water would be released year-round, as necessary, to mitigate surface water depletions. The mine is estimated to consume 340.3 AF and mitigation of all

consumption should help ensure there are no additional adverse impacts to water quantity in sources potentially affected by this groundwater permit.

Impacts related to water quantity are discussed in Sections 3.4 and 3.5 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: **No Significant Impact.**

Granting this permit application would authorize the withdrawal of groundwater from the proposed mine workings and as such, the source has not been assessed by the DEQ Clean Water Act Information Center website. All water removed from the mine will be either consumed by industrial mining purposes or routed to the reverse osmosis water treatment plant and placed in an underground infiltration gallery adjacent to Sheep Creek. There is a low likelihood that groundwater quality will be adversely affected by the appropriation requested in this permit application.

An assessment of one of the potentially affected surface water sources, Sheep Creek, is found on the DEQ website. The DEQ Clean Water Act Information Center website lists Sheep Creek (headwaters to mouth (Smith River)) as not fully supporting primary contact recreation or aquatic life but does support drinking water and agriculture use. DEQ has completed an E. coli TMDL, however the Clean Water Act Information Center website does not list the stream as threatened. There may be some temporary disturbances to water quality conditions related with installation of the infrastructure, but they are expected to stabilize once mine operations begin. Coon and Black Butte Creeks are the other two surface water sources modeled to experience depletions from the proposed groundwater appropriation, however they are not listed on the DEQ Clean Water Act Information Center website.

Impacts related to water quality are discussed in Sections 3.4 and 3.5 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: **No Significant Impact.**

The proposed permit should not have a significant impact on ground water quality or supply. There are 25 water rights within the predicted zone of influence, however only two of those rights are estimated to experience more than 5 feet of drawdown. The Department's estimate of available groundwater volume (groundwater flux through the zone-of-influence) is estimated to be 1,430 AF per year, which exceeds the existing legal demands for groundwater of 715.5 AF. In addition, the DEQ has proposed an agency-modified alternative and is requesting the Applicant backfill certain voids in the mine workings with cemented paste tailings to avoid potential for groundwater degradation. Groundwater levels in the upper portions of the mine workings are expected to return to

pre-mine levels within a couple years of closure, while water levels in deeper workings could take much longer to return to pre-mine levels.

Surface water flows should not be affected by this appropriation, the Applicant will mitigate all surface water depletions related to consumed groundwater beneficially appropriated by the mine.

Impacts from the mine's groundwater appropriation are discussed in Section 3.4 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: **No Significant Impact.**

Water is proposed to be diverted from the mine at a maximum rate of 2.23 CFS (1000 GPM), however only 1.11 CFS (500 GPM) is proposed for beneficial use. Applicant states water will be collected in sumps along access drifts in the mine workings and then pumped to a main sump near the mine's access ramp. A multistage pump similar to a Lowara MPA-100B will divert up to 2.23 CFS from the mine, where up to 1.11 CFS can be diverted to fill the PWP or the entire flow can be diverted to the water treatment plant. The water beneficially used for incidental freshwater uses will be distributed from the water treatment plant while non-beneficially used water will be treated and discharged to an underground infiltration gallery (UIG) adjacent to Sheep Creek. It is not anticipated that the proposed permit to appropriate groundwater will have a significant impact on stream channels, riparian areas, or stream flows, because the Applicant proposes to mitigate all surface water depletions related to consumed water beneficially used by the mine.

Impacts related to diversion works or surface facilities for the mine and associated NCWR are discussed in Sections 3.4 and 3.5 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: **No Significant Impact.**

As of December 2019, the United States Department of Interior Fish and Wildlife Service lists the following species as threatened in Meagher Co: Grizzly Bear and Canada Lynx. The Wolverine is listed as proposed and Whitebark Pine is listed as a candidate species.

The proposed project is not located in general sage grouse habitat therefore the Applicant does not have to consult with the Sage Grouse Habitat Conservation Program or obtain a letter regarding the consultation.

DEQ consulted the appropriate state and federal fish and wildlife agencies and reports in preparation of its analysis of potential impacts to fish, wildlife, plants, aquatic species, and specials of special concern for its Black Butte Copper Project EIS. Impacts related to threatened or endangered fish, wildlife, plants or aquatic species or any species of special concern are discussed in Sections 3.13, 3.15, and 3.16 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

Wetlands **-** *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: **No Significant Impact.**

The USDI Fish & Wildlife Service – Wetlands Online Mapper shows both Freshwater Emergent and Forested/Shrub type wetlands within the project area. The website also shows Freshwater Forested/Shrub Wetland types adjacent to other stream channels in the area. These wetland types are generally only flooded for short periods and the Applicant proposes to mitigate all impacts related to consumed water beneficially diverted and used by the mine. The associated high spring flow permit application, if authorized, also proposes to mitigate any adverse effects to wetlands caused from the mine's groundwater use by discharging water from storage to recharge and maintain wetlands.

Impacts related to Wetlands are discussed in Section 3.14 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

Ponds **-** *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: **No Significant Impact.**

This permit application is being filed to divert groundwater from the mine workings. A Process Water Pond (PWP) with a 162 AF operating capacity will be used to store groundwater used for industrial mine use. The PWP is designed to store an additional 162 AF for a probable maximum flood storm event and the pond will be double lined with HDPE and equipped with a leak detection system. There is also a Contact Water Pond (CWP) that will hold contaminated brine water. The CWP will also have a HDPE double liner covering a 1-foot protective layer of bedding material with a leak detection system. Construction of the approximately 32-acre combined surface area for the PWP and CWP may temporarily displace some species for the 16-year life of mine. The Applicant proposes to monitor and remedy any potential impacts from bird species drinking the slightly acidic PWP water. They can provide bird netting over the PWP similar to that proposed to keep birds from drinking the CWP brine water that can contain elevated salts and metals. No significant adverse impacts to wildlife, waterfowl, or fisheries is anticipated because of the PWP or CWP ponds.

Impacts related to the PWP and CWP on wildlife resources are discussed in Section 3.15 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: **No Significant Impact.**

No impacts to the soil profile are anticipated, assuming proper construction techniques are utilized by the mine. The drift and fill method of mining ensures waste materials are only exposed to the elements for short periods and will help reduce the production of sulfate, acidity and metals. Impacts to the local geology should not negatively impact soil quality, stability, or moisture content.

Impacts related to Geology are discussed in Section 3.6 of the Black Butte Copper Project EIS. Impacts related to Soils are discussed in Section 3.10. Both sections are incorporated into this EA by reference.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: **No Significant Impact.**

There could be various vegetative disturbances from installation of the surface infrastructure (up to 311 acres) required to support copper mine operations, however they are expected to be temporary for the life of the mine. Disturbances should return to pre-mine levels when vegetation is replaced during post-mine operations (Years 16-19). No significant impacts to the vegetation are expected and it is the responsibility of the property owner or lessee to control noxious weeds on their property.

Impacts related to Vegetation are discussed in Section 3.13 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: **No Significant Impact.**

The mine could have impacts to air quality because of mine vents, ore processing, equipment operations, etc. Applicant proposes a dust mitigation plan to include high-efficiency dust collection, enclosures, water sprays and other methods to control potential adverse air emissions. The EIS assessed ambient air impacts, which are judged to be below adverse levels. No adverse impacts to air quality or adverse effects to vegetation from increased pollutants are anticipated.

Impacts related to Air Quality are discussed in Section 3.2 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: **N/A - Project not located on State or Federal Lands**

Impacts related to Cultural Resources are discussed in Section 3.3 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: **No Significant Impact.**

No additional impacts have been identified.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: **No Significant Impact.**

The Department is unaware of any locally adopted environmental plans or goals.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: **No Significant Impact.**

The proposal should not negatively impact recreational activities in the area, Applicant proposes to mitigate all surface water depletions caused by withdrawal of groundwater beneficially used for industrial purposes for the mine.

Impacts related to Land Use and Recreation are discussed in Section 3.7 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: **No Significant Impact.**

No impacts to human health have been identified. An influx of mine employees would likely occur but should not have a significant impact on health concerns. The Black Butte

Copper Project EIS estimates that up to 30% of project employees will come from within 110 miles of mine.

Impacts related to Socioeconomics, including health and quality of life, are discussed in Section 3.9 of the Black Butte Copper Project EIS and are incorporated into this EA by reference.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights*.

Determination: **No Significant Impact.**

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* **See Black Butte Copper Project EIS Section 3.3.**

(b) *Local and state tax base and tax revenues?* **Tax revenues for both state and county will likely increase because of the mining activity profits. See Black Butte Copper Project EIS Section 3.9.**

(c) *Existing land uses?* **Copper mine operations will temporarily disturb up to 311 surface acres of private land, with impacts occurring for up to 19 years. See Black Butte Copper Project EIS Section 3.7.**

(d) *Quantity and distribution of employment?* **Employees will be needed for construction, operation and maintenance of new facilities, it is estimated up to 30% of project employees will come from within 110 miles of mine. See Black Butte Copper Project EIS Section 3.9.**

(e) *Distribution and density of population and housing?* **Influx of new employees for mine. See Black Butte Copper Project EIS Section 3.9.**

(f) *Demands for government services?* **There is a potential that the Black Butte Copper Project will result in increased demand for public infrastructure and services around White Sulphur Springs. Any fiscal impacts will be mitigated through payments made under the Hard Rock Mining Impact Plan. See Black Butte Copper Project EIS Section 3.9.**

(g) *Industrial and commercial activity?* **This application is being proposed to facilitate activities associated with industrial copper mining.**

(h) *Utilities?* **Electrical consumption may increase slightly when some mining operations are occurring and while operating electrically driven pumps.**

(i) *Transportation?* **Increased traffic associated with mining activities. See Black Butte Copper Project EIS Section 3.12.**

(j) *Safety?* **Hazard classification related to ponds for the project have been determined by MT DEQ Hard Rock Mining Program.**

(k) *Other appropriate social and economic circumstances?* **See Black Butte Copper Project EIS Section 3.9.**

2. *Secondary and cumulative impacts on the physical environment and human population:*

DEQ analyzed secondary and cumulative impacts of the Black Butte Copper Project in Section 4 Black Butte Copper Project EIS, which is incorporated by reference into this EA.

3. *Describe any mitigation/stipulation measures:*

The Applicant will likely be subject to measurement conditions on the beneficial water use permit, if authorized.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny Application for Beneficial Water Use Permit No. 41J 30116562. This alternative would result in none of the benefits being realized by the Applicant. The Montana Water Use Act, Title 85, Chapter 2, Montana Code Annotated requires the Department to issue a beneficial water use permit if the applicant proves the criteria in § 85-2-311, MCA.

PART III. Conclusion

1. Preferred Alternative

The preferred alternative is the proposed alternative, to grant Application for Beneficial Water Use Permit No. 41J 30116562.

2 Comments and Responses

The Department has not received comments on the Application for Beneficial Water Use Permit No. 41J 30116562 as of the date of this EA.

3. *Finding:*

*Yes___ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

This EA is prepared in relation to the proposed permit application to appropriate groundwater from the Newland Formation, however the Department is also adopting the Black Butte Copper Project EIS prepared by DEQ for the mine operating permit. The EIS provides an extensive analysis of the Black Butte Copper Project. The analysis provided in this EA is appropriate for the proposed action of issuing a beneficial water use permit. The Black Butte Copper Project EIS and related documents can be found on DEQ's website at the following link: http://deq.mt.gov/Mining/hardrock/Tintina-EIS.

Name of person(s) responsible for preparation of EA:

Name: Doug Mann
Title: Hydrologist - Lewistown Regional Office
Date: 3/12/2020

ADOPTION OF EXISTING ENVIRONMENTAL REVIEW (EA/EIS)

Part I. Proposed Action Description

Applicant/Contact Name & Address: **Tintina Montana Inc.**
17 E Main St.
White Sulphur Springs, MT 59645

Type of Action: **Application for Beneficial Water Use Permit No. 41J 30116562**

Location Affected by Action: **Sections 1, 2, 11, 12, and 13 Twp 12N Rge 5E; Sections 3, 4, 5, 6, 10, 11, 12, 13, 18, 19, 20, 21, 22, 24, 25, 26, 27, 35, and 36 Twp 12N Rge 6E; Sections 18, 19, 30, and 31 Twp 12N Rge 7E, all in Meagher Co**

Narrative Summary of Proposed Action: **Applicant proposes to appropriate groundwater from the mine workings developed for the Black Butte Copper project. The mine workings will range from 460 to 1,640 feet below ground surface and groundwater will be pumped through the mine portal, which will be considered the point of diversion legal description for the project. The source aquifer is the Newland Formation of the Belt Supergroup.**

Applicant estimates up to 807 AF of water will be removed to dewater the mine workings annually, however, the proposed beneficial use for industrial purposes associated with the copper mine is a maximum flow rate of 1.11 CFS (500 gallons per minute (GPM)) and volume up to 350 AF per year. Seven percent of the water beneficially used for the industrial purpose along with the water removed from the mine for dewatering and not beneficially used for industrial purposes will be treated and injected into the ground through an underground infiltration gallery. Applicant says they will use the maximum flow rate to fill the processing pond, however annual use for the mine is estimated at an average rate of 217 GPM. Most of the industrial water use will be used for the milling process and tailing paste plant, along with smaller uses like dust suppression and equipment washing. The expected life of the mine is 16 years, while the completion period to utilize the annual volume of water requested for the mine is anticipated to be achieved within 6 years.

The Montana Department of Natural Resources and Conservation (DNRC) prepared an Environmental Assessment (EA) which considers the potential impacts related to the proposed action of granting Beneficial Water Use Permit No. 41J 30116562. The Montana Department of Environmental Quality (DEQ) has prepared an Environmental Impact Statement (EIS) for the mine operating permit. This EA incorporates by reference relevant sections of DEQ's EIS.

Part II. Existing Environmental Review Information

Title: **Black Butte Copper Project Final Environmental Impact Statement**

Lead Agency: **Montana Department of Environmental Quality (DEQ)**

Location Where Interested Parties Can View or Obtain the Document:
http://deq.mt.gov/Mining/hardrock/Tintina-EIS.

	Part III. Criteria for Adopting Existing Environmental Review
_X_Yes __No	Does the existing environmental review cover an action paralleling or closely related to the proposed action?
_X_Yes __No	Is the information in the existing environmental review accurate and clearly presented?
_X_Yes __No	Is the information in the existing environmental review applicable to the action being considered?
_X_Yes __No	Were all appropriate Agencies consulted during preparation of the existing environmental review?
_X_Yes __No	Were alternatives to the proposed action evaluated as part of the existing environmental review effort?
_X_Yes __No	Have all of the impacts of the proposed action been accurately identified as part of the existing environmental review?
_X_Yes __No	If the existing environmental review identifies any significant impacts as a result of the proposed action, will they be mitigated below the level of significance?

Part IV. Conclusion

If the answers to ALL of the questions listed above are "Yes", the existing environmental review can be considered sufficient to satisfy DNRC's MEPA review responsibilities.
Yes___ No_**X**__ Based on the criteria evaluated in the existing EA, is an EIS required?

** **DNRC prepared an EA for the proposed action which is tiered to the Black Butte Copper Project EIS prepared by DEQ for the mine operating permit. The Black Butte Copper Project EIS provides an extensive analysis of the Black Butte Copper Project. The analysis provided in DNRC's EA is appropriate for the proposed action of issuing a beneficial water use permit.**

Name: Doug Mann
Title: Hydrologist - Lewistown Regional Office
Date: 3/12/2020